

Serial No.: 09/979,577

**AMENDMENTS IN THE SPECIFICATION:**

Page 1, line 23, paragraph beginning thereat:

For apparatuses (CD players and DVD players) for reproducing audio/video information thus recorded on a disk at a constant linear velocity, conventionally, access performance is not considered to be important, and CLV (Constant Linear Velocity) control is performed in order to secure a low level of noise and vibration. In CLV control, the number of revolutions of a spindle motor is controlled in such a manner that a transfer rate (or linear velocity) is constant over a disk range from an inner circumference to an outer circumference of the disk. Such control is achieved as follows. The phase of the frequency of a reproduction clock in a PLL (Phase-Locked Loop) control section of a signal processing circuit is synchronized with the phase of the frequency of a reference clock obtained by frequency-dividing a quartz oscillator, and the frequency of the reproduction clock is controlled using the frequency of the frequency-divided reference clock, thereby generating a control signal for the spindle motor.

Page 13, line 15, paragraph beginning thereat:

The information length of continuous information is determined by detecting data relating to the information length of the information recorded in each header. When the information length is greater than a predetermined size, CLV control, or CAV control in which the number of revolutions is limited, is performed. When the information length is less than the predetermined size, CAV control is performed. The information type, i.e., whether or not the information is a moving image, is estimated based on data relating to copyright protection, a regional code, code information for limiting reproduction, or the like.

Serial No.: 09/979,577

Page 22, line 26, paragraph beginning thereat:

A configuration of the information reproduction apparatus of Embodiment 2 is basically similar to that shown in Figures 1 and 2 relating to Embodiment 1. Therefore, a description thereof is here omitted. Hereinafter, a fundamental fundamental operation of the switching between CLV/CAV control will be briefly described.

Page 25, line 6, paragraph beginning thereat:

When it is determined that information to be reproduced is moving image information, the rotation control of the spindle motor 2 is switched in execution of the AV read command as described above. Since it is not necessary to additionally issue a control command from the host PC 15 to reduce the number of revolutions, the overhead of communication with the host PC 15 can be reduced. This method for identifying moving image information can be applied to both a ROM disk and a RAM disk.

Page 25, line 16, paragraph beginning thereat:

[Identification of Moving Image Information based on Regional Code]

Page 29, line 25, paragraph beginning thereat:

As described above, to estimate whether or not information is a moving image, necessary information can be obtained by reading a management area or the like, which includes additional information or functions, instead of moving image information to be reproduced. Further, a switch is provided in order for the user to have an opportunity to select type of information, such that moving image information can be identified with a higher probability. Thus, the type of

Serial No.: 09/979,577

information is identified and an appropriate rotational driving control is performed, thereby making it possible to minimize noise and vibration generated from the apparatus.

Page 30, line 17, paragraph beginning thereat:

The information carrier recording carrier of the present invention includes a plurality of information recording areas (areas 1 and 2) separated along a radial direction of the information carrier as shown in Figure 4. Information is recorded in each of these information recording areas, depending on the information length of continuous information. Specifically, information having an information length of continuous information larger than a predetermined size, such as audio information and video information, is recorded in the area 1 in the inner circumference side of the information carrier, while information having an information length of continuous information smaller than the predetermined size, such as a short file (i.e., code information), is recorded in the area 2 in the outer circumference side of the information carrier. If an information length of information to be continuously reproduced has a length larger than the predetermined size, the information is recorded in the area 1 in the inner circumference side even in the case of code information. The widths in a radial direction of areas 1 and 2 are appropriately adjusted, depending on the amount of information to be recorded in the respective areas.

Page 31, line 10, paragraph beginning thereat:

A disk in which information is to be recorded (or has been record) with CLV control is subjected to CAV control, where the disk is rotated at a constant number of revolutions, so that as the track is closing to the outer circumference, the reproduction rate is increased. The upper limit of the reproduction rate is generally determined by a frequency characteristic of an optical pickup or a

Serial No.: 09/979,577

signal processing circuit and the maximum number of revolutions of a spindle motor. Therefore, when random access for code information is performed in an outer circumference and sequential access for audio/video information is performed in an inner circumference, handling or access performance and reading performance can be expected to be substantially improved.

Page 33, line 23, paragraph beginning thereat:

When music is appreciated, the area 1 at the inner circumference side is accessed, CLV control is selected, and information recorded in a track is sequentially read out. A light beam is moved toward the outer circumference along a spiral track while reading out information with the taspe lapsed of time. The rotation of the spindle motor 2 (Figure 1) is linearly decreased so as to maintain a constant linear velocity. The number of revolutions is equal to A (rpm) at the leading radius of 24 mm of the area 1 and is reduced up to B (rpm) at the end radius of 35 mm. In this case, the transfer rate is controlled by CLV control in such a manner as to be a constant value (aMB/s). Further, the rotation of the spindle motor may be further decreased up to a minimum reproduction rate (required for processing during sound reproduction without a problem) by performing the CLV control, thereby making it possible to reduce the rotation noise of the spindle.

Page 35, line 12, paragraph beginning thereat:

In the area 1 in which sequential reading is predominant, the number of accesses is small, so that reading performance is paramount and the spindle motor 2 is therefore controlled in such a manner that reading is performed with CLV control and at a fast and constant transfer rate (aMB/s). In the area 2 in which random access is predominant, access performance is paramount and

Serial No.: 09/979,577

therefore the number of revolutions of the spindle motor 2 is set to be constant © rpm) with CAV control so that fast access can be achieved.

Page 37, line 12, paragraph beginning thereat:

In Embodiment 4, for recording, the spindle motor 2 is preferably controlled in such a manner as to record information to be continuously recorded or reproduced, such as audio information, with CLV control and information to be randomly reproduced, such as code data, with CAV control. A control method used in recording may be stored in the form of bit information as additional information in a header portion. In this case, CAV control and CLV control can be switched based on such bits when reproduction is performed.

Page 37, line 22, paragraph beginning thereat:

Further, when the response time of laser or recording compensation are taken into consideration, a modulation frequency needs to be increased as the track is closing to the outer circumference in the case where recording is performed with CAV control. It is difficult to achieve this when a recording density and a transfer rate are certain values. In this case, all recording is performed with CLV control, and only reproduction is performed with CAV control and CLV control which are ~~switched~~ switched therebetween depending on information.